NATIONAL ACCELERATOR LABORATORY

ENGINEERING NOTE

SECTION	PROJECT	SERIAL-CATEGORY	PAGE
Meson	Standard Magnets	TM-466 2222.100	

SUBJECT

4 x 30 SEXTUPOLE MAGNET DATA SHEET
DC OPERATION

NAME: J. Satti/S. Snowden

DATE: 12/4/73

REVISION DA

Magnetic Field

Sextupole Strength	1.872 kG/in^2
Uniformity at 1.6 in	±.22%

Power

DC Power	3.5 kW
Current	100 A
Voltage	35 V
Resistance @ 60° C	.35 Ω
Time Constant	.43 S
Inductance	150 mH

Cooling

Water Temp Rise	20° C
Total Flow	2 GPM
Pressure Drop	100 psi

Coil Data

Conductor (solid sq)	.230 in
Turns per pole	54
Avg. Turn Length	72 in
Inner-fin Cooling Tubes Dimensions	.200 in x 1.10 in .233 in x 1.46 in

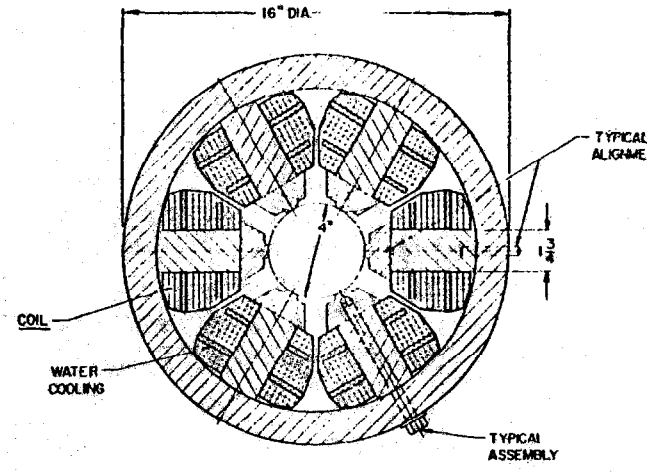
Weights

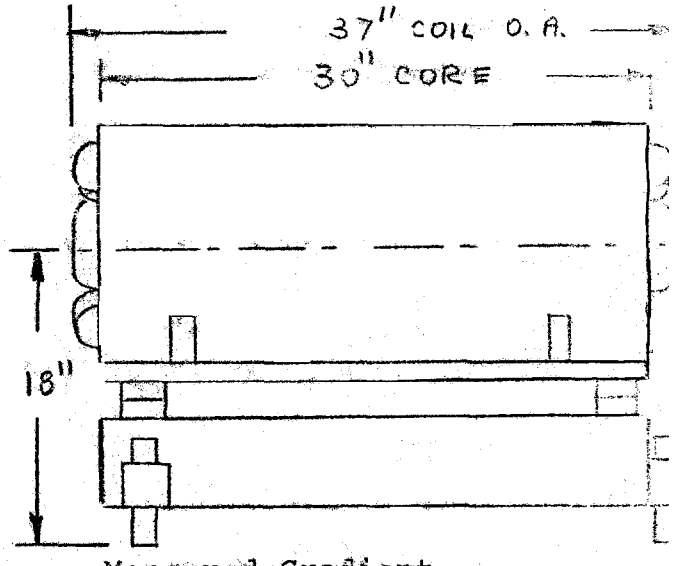
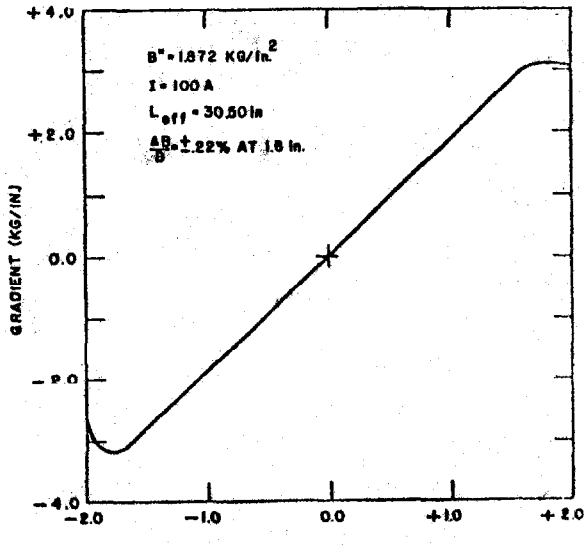
Coil	450 lb
Core	–
Total Magnet Assembly (with stand)	1610 lb

Calculation Constants

Transfer Constant $P_{kW} = 3.5 \times 10^{-4}\ I^2$	18.72 G/in^2 A

Outline Dimensions





Measured Gradient